

Portland Water District	)	Departmental
Cumberland County	)	Findings of Fact and Order
Portland, Maine	)	Air Emission License
A-275-71-G-A/R	)	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

## I. REGISTRATION

### A. Introduction

Portland Water District (PWD) of Portland, Maine has applied to renew their air emission license permitting the operation of emission sources associated with their municipal wastewater facility, and to add an existing diesel fired pump to their air emission license.

### B. Emission Equipment

PWD is authorized to operate the following equipment:

#### Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler #1	5.6	40.0	#2, 0.5	1
Boiler #2	5.6	40.0	#2, 0.5	2
Boiler #3	5.6	40.0	#2, 0.5	3

#### Electrical Generation Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Emergency Generator	4.5	32.1	Diesel, 0.05%	4
Diesel Fired Pump	4.5	32.1	Diesel, 0.05%	5

PWD also utilizes a 15,000-gallon fuel storage tank that is recognized as an insignificant activity in accordance with Chapter 115, Appendix B(B)(7) and is therefore noted for inventory purposed only.

### C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as given in Maine’s Air Regulations. This modification is determined to be a minor modification and has been processed as such.

## II. BEST PRACTICAL TREATMENT (BPT)

### A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

### B. Boilers #1, #2 and #3

Boilers #1, #2 and #3 were manufactured in 1978 with a maximum design capacity of 5.6 MMBtu/hr each. The boilers fire #2 fuel oil with a sulfur content not to exceed 0.5% by weight. Boilers #1, #2 and #3 are not subject to EPA New Source Performance Standards (NSPS) Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

BPT for Boilers #1, #2 and #3 is the following:

- The use of 0.5% sulfur #2 fuel oil;
- A PM lb/MMBtu emission limit for oil fired boilers regulated by MEDEP Chapter 103 and the PM<sub>10</sub> lb/hr emission limit based on the PM limit;
- NO<sub>x</sub> lb/MMBtu emission limits based on data for boilers of similar size and age and firing #2 fuel oil;
- CO lb/MMBtu emission limits based on AP-42 data dated 9/98 for oil fired boilers of less than 100 MMBtu/hr;
- VOC lb/MMBtu emission limits consistent with current licensed levels; and

- Visible emissions from each stack #1, #2 and #3 shall not exceed 20% opacity on a 6 minute block average basis.

**C. Diesel Units**

PWD operates one emergency generator in the wastewater plant and one diesel fired pump located in the Northeast Pump Station. Each generator is rated at 450 kW and each fires 0.05% sulfur diesel fuel at design capacity of 32.1 gal/hr. The generators are not subject to NSPS.

The emergency generator is operated under emergency circumstances only and is thus licensed to operate for 500 hours/year on a 12 month rolling year basis. The diesel fired pump is operated for “power shaving” during high-flow events and during power interruptions. It is not classified as an emergency generator, but its use is limited to 500 hours/year on a 12 month rolling year basis.

BPT for each diesel unit is the following:

- Operation limited to 500 hours/year on a 12 month rolling year basis;
- The use of 0.05% sulfur diesel fuel;
- A PM lb/MMBtu emission limit for oil fired boilers regulated by MEDEP Chapter 103 and the PM10 lb/hour emission limit based on the PM limit;
- NOx, CO and VOC lb/MMBtu emission limits based on AP-42 data dated 10/96 for diesel generators rated more than 600 hp.
- Visible emissions from each stack #4 and #5 shall not exceed 30% opacity on a 6-minute block average, except for no more than two 6-minute block averages in a 3-hour period.

**D. Annual Emission Restrictions**

Portland Water District shall be restricted to 150,000 gallons per year of #2 fuel oil, based on a 12-month rolling total, and with a sulfur content not to exceed 0.5% by weight, to be fired in Boilers #1, #2 and #3. Facility emission calculations also include 500 hours/year on a 12 month rolling year of operation for each of the two diesel units.

**Total Allowable Annual Emission for the Facility**  
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/Year</u>
PM	4.05
PM <sub>10</sub>	4.05
SO <sub>2</sub>	16.0
NO <sub>x</sub>	16.7
CO	3.1
VOC	0.31

**III.AMBIENT AIR QUALITY ANALYSIS**

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the above total facility emissions, PWD is below the emissions level required for modeling and monitoring.

**ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-275-71-G-A/R subject to the following conditions:

**STANDARD CONDITIONS**

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - b. pursuant to any other requirement of this license to perform stack testing.
  - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for

the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

#### **SPECIFIC CONDITIONS**

- (16) Boilers #1, #2 and #3
- (i) PWD shall be limited to 150,000 gallons per year of 0.5% sulfur #2 fuel oil, based on a 12-month rolling total, to be fired in Boilers #1, #2 and #3. Compliance shall be demonstrated by fuel use records and receipts showing the sulfur content of the fuel and maintained for 12 rolling months.
- (ii) Emissions from each of Boilers #1, #2 and #3 shall not exceed the following:

#### **Boiler #1, #2 and #3 Emission Limits (per boiler)**

<b><u>Pollutant</u></b>	<b><u>lb/hr</u></b>	<b><u>lb/MMBtu</u></b>
PM	0.7	0.12
PM <sub>10</sub>	0.7	N/A
SO <sub>2</sub>	2.82	N/A
NO <sub>x</sub>	1.7	N/A
CO	0.2	N/A
VOC	0.02	N/A

Compliance shall be demonstrated on request of the Department through stack testing in accordance with the appropriate method found in 40 CFR Part 60, Appendix A.

- (iii) Visible emissions from each of Boilers #1, #2 and #3 (stacks #1, #2 and #3) shall not exceed 20% opacity on a 6 minute block average basis.

(17) Diesel Units

- (i) The emergency generator and the diesel fired pump shall each be limited to 500 hours of operation per 12 month rolling year. Hour meters shall be installed and operated on each diesel unit.
- (ii) The emergency generator and the diesel fired pump shall each fire 0.05% sulfur diesel fuel. Compliance shall be demonstrated through fuel receipts showing the sulfur content of the fuel and maintained for 12 rolling months.
- (iii) A log shall be kept documenting the dates, times and reason of operation each time the emergency generator is operated.
- (iv) Emissions from each of the diesel units shall not exceed the following:

**Diesel Units Emission Limits  
(per generator)**

<b><u>Pollutant</u></b>	<b><u>lb/hr</u></b>	<b><u>lb/MMBtu</u></b>
PM	0.54	0.12
PM <sub>10</sub>	0.54	N/A
SO <sub>2</sub>	0.23	N/A
NO <sub>x</sub>	14.4	N/A
CO	3.81	N/A
VOC	0.37	N/A

Compliance shall be demonstrated on request of the Department through stack testing in accordance with the appropriate method found in 40 CFR Part 60, Appendix A.

- (v) Visible emissions from each of the diesel units (stacks #4 and #5) shall not exceed 30% opacity on a 6-minute block average, except for no more than two 6-minute block averages in a 3-hour period.
- (18) Portland Water District shall submit an application for an amendment prior to running the Emergency Generator as a Dispatchable Load Generator. The amendment will reflect this change and the hours of operation will be reduced from 500 to 250 hours per year (based on a 12 month rolling total).
- (19) Portland Water District shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 MRSA §605-C).



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**Departmental  
Findings of Fact and Order  
Air Emission License**

- (20) Portland Water District shall pay the annual air emission license fee within 30 days of December 24 of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.
- (21) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS                      DAY OF                      2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: November 30, 2001

Date of application acceptance: December 21, 2001

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Rachel E. Pilling, Bureau of Air Quality